

Claims

- [c1] An energy-absorbing device for an imaging tube having a housing, said device comprising an energy-absorbing body fluidically coupled to said housing and adapted to absorb kinetic energy generated within the imaging tube.
- [c2] A device as in claim 1 wherein said energy-absorbing body is directly coupled to said housing.
- [c3] An imaging tube comprising:
 - a housing;
 - a rotating target coupled within said housing and generating at least one energy wave; and
 - at least one energy-absorbing device fluidically coupled to said housing and said rotating target, said at least one energy-absorbing device adapted to absorb energy within said at least one energy wave.
- [c4] An imaging tube as in claim 3 further comprising a frame coupled between said rotating target and said housing and containing at least a portion of said at least one energy wave, said at least one energy-absorbing device absorbing energy within said portion.

- [c5] An imaging tube as in claim 3 further comprising a cooling material containing at least a portion of said at least one energy wave, said at least one energy-absorbing device absorbing energy within said portion.
- [c6] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is within said housing.
- [c7] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is fluidically coupled between said rotating target and said housing.
- [c8] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is toroidal in shape.
- [c9] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is directly coupled to an inner surface of said housing.
- [c10] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is formed of a material selected from at least one of a foam, a closed cell foam, a polyolefin foam, an olefin foam, a polymer, and a polyolefin plastic.
- [c11] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is oriented to receive said at least one energy wave generated from the separation of

material fragments from said rotating target.

- [c12] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is oriented to receive energy waves emitted within an emission range that is approximately a ±30° span from a perpendicular axis, which extends perpendicular to a center axis of rotation of said rotating anode.
- [c13] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is coupled to said housing using at least one technique selected from bonding, adhering, fastening, brazing, welding, and spot welding.
- [c14] An imaging tube as in claim 3 further comprising at least one energy-absorbing device coupler coupling said energy-absorbing device to said housing.
- [c15] An imaging tube as in claim 14 wherein said at least one energy-absorbing device coupler is a coupler selected from at least one of a bracket, a fastener, and a cover.
- [c16] An imaging tube as in claim 14 wherein said at least one energy-absorbing device coupler is integrally formed as part of the housing.
- [c17] An imaging tube as in claim 3 wherein said at least one energy-absorbing device comprises an outer skin.

- [c18] An imaging tube as in claim 3 wherein said at least one energy-absorbing device stabilizes and reduces pressure exertions on said housing.
- [c19] An imaging tube as in claim 3 wherein said at least one energy-absorbing device comprises an x-ray opening.
- [c20] An imaging system having an imaging tube comprising:
 - a housing;
 - a rotating target coupled within said housing and generating at least one energy wave; and
 - at least one energy-absorbing device fluidically coupled to said housing and said rotating target and absorbing energy within said at least one energy wave.